

SSOW 024– Inflation of fitted Plant tyres.

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Scope of Activity:	This safe system of work covers the inflation and Deflation of tyres fitted to plant vehicles.
Applicable Risk Assessment:	RA 024 – Inflating and deflating pneumatic tyres.
Hazards Expected:	As identified in the applicable risk assessment.
Mandatory PPE:	Overalls Safety boots Eye Protection Ear defenders
Additional PPE (as required):	Bump cap (if working in area/ position with poor head clearance) Ear defenders
Resources:	Competent engineer (s) Extended airlines minimum 3 Metres in length Clip on chuck with quick release coupling Vehicle fitted with reflective markings, lighting and flashing beacons

Manning:

Field service engineer(s) reporting to a Service Manager who is responsible for providing information, instruction, supervision and ensuring that the engineers are suitably trained. In turn the Service Manager reports to the Regional General Manager.

Engineers will take full responsibility for:

- Customer contact, authority to carry out the task, signing and implementing customer work permits and following customer site rules;
- Establishing with the customer and working in a safe area and environment;
- Ensuring that a risk assessment is in place, is suitable and sufficiently covers all hazards;
- Familiarising themselves with the equipment operator and maintenance manuals;
- Ensuring all maintenance and repairs are completed in accordance with the manufacturer's manual;
- Ensuring that they have the correct tools and knowledge to carry out the task safely;

Personal Protective Equipment:

- Complete pre-use checks on all PPE and once satisfied fit and adjust;
 - Ensure items of PPE are free from defects;
 - Ensure all PPE is clean and free from flammable contaminants or residues;
 - Ensure all items are dry, especially the gloves;

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Increased Risk of Failure:

- The areas where there is an increased risk are:
 - Following a tyre repair;
 - Where there is visible signs of damage to the tyre wall (eg Tyre has been run flat or has been significantly underinflated);
 - Where a split rim/Multi-piece wheel is fitted;
 - Agricultural vehicles as they are prone to rust and corrosion caused by mud and farm chemicals ;
 - Where the air pipe is not long enough for the operator to stand out of the trajectory of the tyre if it were to explode;
 - Where the valve attachment requires the operator to hold the airline on to the valve;
 - Where tyres are filled with water (Agricultural vehicles);

Safe Working Method:

Upon arrival assess the area where the activity is to be carried out to ensure that there is no risk from the following;

- Soft or uneven ground that could create unsafe vehicle movement during inflation;
- Vehicles or plant activity in the area where the activity is to be carried out including working next to live traffic lanes;
- If there is any pedestrian activity in the area;
- Work equipment can be operated in a way that it does not create a trip hazard;
- If on a customer site are there any specific health and safety constraints or requirements which are required;

Before beginning the task always;

- Check that the airline is long enough to allow you to stand outside of the trajectory of the wheel if it were to explode; (**Image 1.1**)
- Thoroughly examine the tyre inside and outside to ensure that the tyre shows no signs of damage paying particular attention to the side walls;
- Before inflating the tyre confirm the correct inflation pressure for the size and ply rating of the tyre;
- Check the tyre pressure and mark on the side of the tyre wall with chalk;
- Position the operators vehicle in the trajectory of any potential exploding wheel so that it acts as a barrier in the event of a tyre exploding;
- If there is pedestrian activity in the area segregate the work area off to prevent unauthorised access;
- Ensure that that clip on and quick release valves are fitted at either end so that the airline does not have to be held on by hand during inflation and that it can be disconnected from the operators end in the event of a need to stop the inflation process; (**Images 1.2, 1.3**)



Image 1.1



Image 1.2

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- If the working activity is next to live lane traffic, reposition the vehicle or arrange recovery to a safer working area;
- Check the compressor being used to ensure that it has the capability of carrying out the task safely;
- If working on agricultural vehicles determine if tyres are water filled;



Image 1.3

- **If the above has been carried out and the activity is safe to continue**

- Use a wall or position the service vehicle as a barrier in the potential trajectory of the tyre if it were to explode;
- Connect the airline to the valve of the tyre using the clip-on quick release valve chuck, ensure that this has been attached securely;
- Move in to a position that ensures that you are out of the trajectory of any potential exploding wheel;
- Begin gently inflating tyre to not more than 15.p.s.i then check that the tyre is properly centred on the rim. Check that the flanges and locking rings are correctly seated, **this is critical when inflating Split Wheels;**
- When satisfied of the safe condition of the tyre continue to inflate above 15 p.s.i to its correct pressure;
- Check the pressure frequently during inflation and never over-inflate above the maximum pressure allowable for the size and ply rating of the tyre.
- Remove these before starting or move to an alternative area;
- When the tyre reaches the required pressure remove the airline from the operator end using the quick release valve;
- Only when disconnected return to the tyre and check again for bulges, damage and to ensure that the tyre is correctly seated on the rim;
- Remove the valve and replace the dust cap;
- Replace all equipment safely back in the vehicle;

- **DO;**

- Use a clip-on chuck to connect the airline with a quick release coupling at the operators end (this allows deflation from a safe position if problems occur);
- Use airline hoses long enough to allow the operator to stay outside the likely explosion trajectory during inflation;
- Remove the airline after use to prevent air seepage and potential over inflation;
- **Water filled tyres:**
- Position tyres so that valve is located in the 12 o'clock position;
- **Split Wheels:**
- Deflate at a safe distance before removal or loosening wheel nuts
- Do make sure they are clearly identified. Sometimes, the rim-clamping nuts are painted in a contrasting colour to the rim to distinguish them;
- Move out the way of the trajectory of a potential exploding wheel before inflating.
- Put in place a barrier such as a van or wall before inflating;

- **Don't;**

- Use valve connectors that require the operator to hold them in place;
- Exceed the manufactures recommended tyre pressure for the size and rating of tyre;

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- Use unrestricted airlines (ie without gauge or pressure control device);
- Allow the control valve to be jammed open which could allow the operator to leave an inflating tyre unattended;
- Inflate a tyre to over 15psi without first having a vehicle barrier protection in place;
- Never leave an unattended airline attached to the valve of a truck tyre assembly as air seepage may over-inflate the tyre;
- Never allow anyone in the vicinity of a truck tyre whilst it is being inflated;

Water Filled Tyres:

- Exceed 20 psi when inflating;

Split Wheels

- Work on these unless competent to do so;
- Remove a split wheel before deflating first;
- Inflate past 15psi without moving outside the trajectory and putting a barrier in place;